



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

December 16, 2015

Matthew Feinberg  
Authorized Representative for Novozymes BioAg, Inc.  
Exponent, Inc.  
1150 Connecticut Ave. NW  
Suite 1100  
Washington, DC 20036

Subject: Pesticide Registration Improvement Act (PRIA) Label and Formulation Amendment –  
Minor Changes to Product Label Language (Including Addition of Sublabel for  
Transport of 1 Ton Bags) and Change in Supplier of Active Ingredient Spores on  
Confidential Statement of Formula (CSF)  
Product Name: Actino-Iron® Biological Fungicide  
EPA Registration Number: 73314-2  
Application Date: May 6, 2015  
OPP Decision Number: 504895

Dear Mr. Feinberg:

The amended labeling and amended CSF referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 § CFR 152.3.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency (EPA). If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or

misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

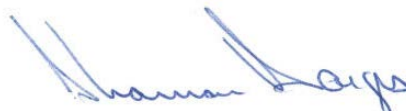
Please note that the record for this product currently contains the following acceptable CSF:

- Basic CSF dated 12/04/2015

Any CSFs other than those listed above are superseded/no longer valid.

If you have any questions, please contact Ann Sibold of my team by phone at (703) 305-6502 or via email at [sibold.ann@epa.gov](mailto:sibold.ann@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Shannon Borges", is positioned above the typed name.

Shannon Borges, Team Leader  
Microbial Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

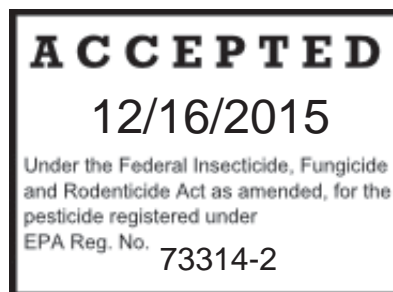
# Actino-Iron<sup>®</sup> Biological Fungicide

<b>Sublabel A:</b>	<b>Greenhouse, Nursery, Turf Grass, Agricultural, and Residential Garden Use – 10 lb., 25 lb. and 50 lb. bags</b>
<b>Sublabel B:</b>	<b>Residential Garden Use – 9 oz., 3 lb., and 10lb. bags</b>
<b>Sublabel C:</b>	<b>Transport Label for 1 Ton Bags</b>
<b>Optional Label Claims</b>	

**EPA Reg. No.:** 73314-2

**EPA Establishment No.:** [73314-TX-001]  
[69759-OR-003]  
[72934-FL-001]

Novozymes BioAg Inc.  
3101 W. Custer Ave  
Milwaukee, WI 53209  
800-245-4104



**Sublabel A: Greenhouse, Nursery, Turf Grass, Agricultural, and Residential Garden Use**

# **Actino-Iron<sup>®</sup> Biological Fungicide**

**Grade: 0-0-0**

**ACTIVE INGREDIENT:**

*Streptomyces lydicus* WYEC108\* .....0.013%

**OTHER INGREDIENTS:** .....99.987%

**TOTAL:** ..... 100.000% (by wt.)

\*Contains a minimum of 1 X 10<sup>6</sup> colony forming units per gram of product.

**Other Ingredients include Iron at a minimum of 15% and Humic Acid at a minimum of 1.00%. Iron is derived from magnetite ore.**

**GUARANTEED ANALYSIS**

Iron (Fe).....15.0%

Molybdenum (Mo).....0.001%

Iron derived from magnetite ore complexed by siderophores of *Streptomyces lydicus* WYEC 108

Contains agricultural grade iron and humate

**ALSO CONTAINS NON-PLANTFOOD INGREDIENT**

1% Humic Acid derived from decomposed plant residue.

**ATTENTION:** This product contains molybdenum (Mo). Crops high in molybdenum can be toxic to ruminant animals. Use only according to manufacturer's directions. Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**See attached booklet for additional precautionary statements, first aid, complete directions for use and warranty.**

<b>FIRST AID</b>	
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice</li></ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 – 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have a person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the poison control center at 1-800-222-1222.</b>	

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3101 W. Custer Ave  
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1-800-245-4104

[NOVOZYMES RETHINK TOMORROW][LOGO]

**Net Weight:** [10 lbs.][25 lbs.][50 lbs.]  
[Batch code and expiry date]

## PRECAUTIONARY STATEMENTS

**Hazards to humans and domestic animals - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### **Personal Protective Equipment (PPE):**

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- shoes plus socks

Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow the manufacturer's instructions for cleaning / maintaining PPE. If no instructions are available, use detergent and hot water for washables. Keep and wash PPE separately from other laundry.

## USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

**Environmental Hazards:** Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwater or rinsate.

(For 50lb packages)

[Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA]

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Do not apply this product through any type of irrigation system.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

**EXCEPTION:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Chemical resistant gloves (made of any waterproof material)
- Shoes plus socks

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are **not** within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated areas until dusts have settled.

**Product Information:** Actino-Iron<sup>®</sup> Biological Fungicide is a biological soil additive and fungicide for the suppression/control of soil borne plant root rot and damping-off fungi. Actino-Iron<sup>®</sup> Biological Fungicide contains agricultural grade iron and humate and is inoculated with the Actinovate<sup>®</sup> microorganism, *Streptomyces lydicus* WYEC 108. The microorganism colonizes on the root systems of plants, protecting the plant from soil borne diseases. Fungi controlled include *Fusarium*, *Pythium*, *Rhizoctonia*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Postia*, *Verticillium*, *Geotrichum*, and other root decay fungi. In addition, use of Actino-Iron<sup>®</sup> Biological Fungicide will produce hardier, more vigorous plants. Plants will be larger and greener with Actino-Iron Biological Fungicide.

**Integrated Pest Management:** Integrate Actino-Iron® Biological Fungicide into an overall disease and pest management strategy whenever fungicide use is necessary. Apply Actino-Iron® Biological Fungicide alone or in combination and/or rotation with chemical fungicides. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

## **APPLICATION DIRECTIONS**

**Application Uses:** For indoor/outdoor greenhouse, nursery, turf grass, ornamental plant, and field uses. Actino-Iron® Biological Fungicide is a biological fungicide for use in soil applications (top dressing with fertilizer, soil incorporation and in furrow) for growing plants.

**Greenhouses and Nurseries Potting Soil Mix:** Use in greenhouses, glass houses, shade houses, enclosed nurseries, and outdoor field grown and container nursery plants, including perennials, ornamentals, trees, seedlings, ornamental grasses, all types of hardwood and softwood cuttings, palms, foliage plants, cut flowers, cut foliage and ferns, seedlings, plugs, bench or bed grown plants, vegetables, and herbs.

Evenly mix 5 lbs of Actino-Iron® Biological Fungicide per cubic yard of planting media. Re-apply to planting media when repotting.

For nursery beds, incorporate at a rate of 2-8 pounds per 1000 square feet of bed by raking or tilling. Application of irrigation water will help move Actino-Iron® Biological Fungicide into the soil.

For top dressing with fertilizer, apply at a rate of 3-oz per cubic foot of planting media in pot. Water in thoroughly without creating run-off.

If soil is fumigated or steam sterilized, apply Actino-Iron® Biological Fungicide after treatment. Actino-Iron® Biological Fungicide can be used in combination with or in rotation with other fungicides, insecticides, miticides, fertilizers or micronutrients. Consult other product's labels for additional information or restrictions concerning tank mixing. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

**Turf Grass:** Use on all cool and warm season turf grass varieties such as Bentgrass, Bluegrass, Bermudagrass (common and hybrid), Fescue, Ryegrass, St. Augustine, Zoyzia, Paspalum and Poa Annua. Use on Greens, Tees, Fairways and Roughs, Sports Turf, Parks, Cemeteries, (Residential) Lawns, Sod Farms, Seed Production Grasses and all ornamental grass varieties. Apply Actino-Iron® Biological Fungicide throughout the growing season on all types of soils and turfgrass varieties.

For problem areas with a history of, or potential for, fungal disease evenly apply 9 lbs of Actino-Iron® Biological Fungicide per 1,000 square feet of turf grass. For general maintenance, evenly apply 4 lbs of Actino-Iron® Biological Fungicide per 1,000 feet of turfgrass. If soil is fumigated or steam sterilized, apply Actino-Iron® Biological Fungicide after treatment. Actino-Iron® Biological Fungicide can be used in combination with or in rotation with other fungicides, insecticides, miticides, fertilizers or micronutrients. Consult other product's labels for additional information or restrictions concerning tank mixing. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.



Apply with a drop spreader or by blending Actino-Iron® Biological Fungicide into fertilizer top dressing (sand, peat, humus, compost). Water in immediately after application.

**[Outdoor] [Agricultural Field] Use on Growing Crops and Ornamental Plants:** For use throughout the growing season on all types of soils and all listed outdoor field grown food crops including vegetables, grains, herbs, small fruits, berries and fruit and nut trees. For use throughout the growing season on all types of soils and on all listed outdoor grown ornamentals, landscape plants, trees, shrubs, annuals, perennials, ground covers, and tropical plants.

Apply Actino-Iron® Biological Fungicide at a rate of 10-15 pounds per acre using properly calibrated application equipment. Apply Actino-Iron® Biological Fungicide using a metering device, mounted to deliver granules into the furrow just behind the furrow opener. Apply Actino-Iron® Biological Fungicide either at seeding or to established crops as a side-dress. Water in after application. Actino-Iron® Biological Fungicide can be used in combination with or in rotation with other fungicides, insecticides, miticides, fertilizers or micronutrients. Consult other product's labels for additional information or restrictions concerning tank mixing. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

### **Residential garden use**

Uses: For use on listed roses, bedding plants, annuals, and perennials, flowering plants, lawns, fruits, vegetables, tropical foliage plants and ornamental shrubs.

### **APPLICATION INSTRUCTIONS (HOW TO APPLY)**

1 cup = ½ lb. (8 oz.)

#### **Mixing Into Potting Soil or Compost**

Prior to potting plants, evenly mix 2 cups of Actino-Iron® Biological Fungicide into a 2.8 cubic foot bagged potting soil of your choice. When potting, repotting, establishing new beds or installing new plants, always add Actino-Iron® Biological Fungicide to the potting soil.

#### **Applying To Transplants or Established Plants**

**New roses and flowers:** Work 1/8 cup at the bottom of the planting hole. Mix another 1/8 cup into soil used to fill around the roots of the transplant.

**Rose and flower beds:** Evenly spread on top of bed at a rate of 3 pounds per 750 square feet of bed. Work into the soil by raking or tilling. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.



**Potted perennials:** For potted perennials (6" pot size or smaller) use 1 teaspoon. For larger perennials use 1–4 tablespoons. Apply to the soil around the base of each plant. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Garden beds:** Apply 1.5-3 lbs per 500 square feet and till into the soil to a depth of 2-5 inches before planting. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Shrubs and bushes:** Apply 1/4 cup around the base of the plant and work into soil. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Trees:** Apply 1/8 cup for each 1 inch of trunk diameter. Apply around base of tree and work into soil. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

### **Lawn Application**

**Established lawns:** As a fertilizer top dressing for lawns, Actino-Iron® Biological Fungicide will protect lawns from harmful root damaging fungi and provide long-term greening at the same time. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

#### **Cool-Season (Northern) Grasses**

Apply 2 times/year Kentucky Bluegrass, Fescue, Perennial Ryegrass

Memorial Day	10 lbs. per 2,500 sq. ft.
August 1st	10 lbs. per 2,500 sq. ft.

#### **Warm-Season (Southern) Grasses**

Apply 3 times/year Bermuda, St. Augustine, Centipede & Zoysia

April 1 <sup>st</sup> (after turf breaks dormancy)	10 lbs. per 2,500 sq. ft.
July 1 <sup>st</sup>	10 lbs. per 2,500 sq. ft.
November 1st	10 lbs. per 2,500 sq. ft.

**New Lawns:** Mix into the top two inches of soil before seeding or sodding. After third mowing of lawn, apply 10 lb. per 2,500 sq. ft. of lawn. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

Seed Bed	10 lbs. per 2,500 sq. ft.
Sodding Preparation	10 lbs. per 2,500 sq. ft.

### **Established and New Lawns: Spreader Settings:**

#### **Drop Spreader Type**

Ames/Earthway	21
Lawn Crafter (Quaker)	8
Red Devil	11
Republic EZ Grow	8
Scotts Accu Green series	10

## **Crops on which Actino-Iron® Biological Fungicide may be applied**

**Agronomic and Field Row Crops:** including wheat, buckwheat, cotton, canola, safflower, sunflower, and soybeans

**Alfalfa Hay and Forage:** including alfalfa, clover, vetch, and trefoil

**Small Grains:** including rye, rice, sorghum, and millet

**Corn:** including popcorn, seed corn, and sweet corn

**Potatoes:** including all types of Irish potatoes, and sweet potatoes

**Cucurbit Vegetables:** including cucumbers, melons, gourds, squash, and cantaloupe

**Fruiting Vegetables:** including eggplant, sweet peppers, hot peppers, tomatoes, and tomatillos

**Herbs, Spices and Mints:** including sage, rosemary, thyme, peppermint, dill, basil, and oregano

**Leafy Vegetables and Cole Crops:** including broccoli, Brussels sprouts, cabbage, cauliflower, celery, collards, endive, kale, kohlrabi, lettuce, mustard greens, parsley, and spinach

**Legume and Vegetable Crops:** including snap and dry beans, lentils, edamame, succulent and dry peas

**Root/Tuber and Bulb Crops:** including garlic, onion, sugarbeet, carrot, ginger, ginseng, horseradish, turnip, and radish

**Berry Crops:** including blueberry, blackberry, strawberry, raspberry, loganberry, huckleberry, gooseberry, elderberry, currant, and caneberry

**Citrus:** including orange, grapefruit, lemon, tangerine, tangelo, lime, and pummel

**Grape:** including wine grapes, table grapes, and raisins

**Pome Fruit:** including apple, crabapple, pear, quince, and mayhaw

**Stone Fruit:** including apricot, cherry, nectarine, peach, plum, and prune

**Tree Nuts:** including almond, pistachio, pecan, walnut, and filbert

**Tropical Fruit:** including avocado, mango, and papaya

**Miscellaneous:** including asparagus, bananas, plantains, watercress, mushrooms, olives, and hops

### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in a dry, cool place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**Warranty**

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. Novozymes BioAg warrants that at the time of the first sale of this product it conforms to the chemical description on the label and when used according to the label directions under normal growing conditions is reasonably fit for the purposes referred to above. Buyers/Users of this product assume full risk for any use contrary to the specified directions. If this product does not perform as warranted above and to the extent consistent with applicable law, customer's sole remedy for breach of warranty shall be replacement of the product or refund of the purchase price paid, at the option of Novozymes BioAg.

EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESSED REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OR GUARANTEE TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, INCLUDING ANY OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.

[Note: The following information will affixed to the unit package]

# Actino-Iron<sup>®</sup> Biological Fungicide

Grade: 0-0-0

## ACTIVE INGREDIENT:

*Streptomyces lydicus* WYEC108\*.....0.013%

**OTHER INGREDIENTS:**.....99.987%

**TOTAL:** ..... 100.000% (by wt.)

\*Contains a minimum of 1 X 10<sup>6</sup> colony forming units per gram of product.

**Other Ingredients include Iron at a minimum of 15% and Humic Acid at a minimum of 1.00%. Iron is derived from magnetite ore.**

## GUARANTEED ANALYSIS

Iron (Fe).....15.0%

Molybdenum (Mo).....0.001%

Iron derived from magnetite ore complexed by siderophores of *Streptomyces lydicus* WYEC 108

Contains agricultural grade iron and humate

## ALSO CONTAINS NON-PLANTFOOD INGREDIENT

1% Humic Acid derived from decomposed plant residue.

**ATTENTION:** This product contains molybdenum (Mo). Crops high in molybdenum can be toxic to ruminant animals. Use only according to manufacturer's directions. Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**See booklet for additional precautionary statements, directions for use, application instructions and warranty.**

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice</li></ul>
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**Net Weight:** [10 lbs.][25 lbs.][50 lbs.]  
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**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

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**Sublabel B: Residential Garden Use**

# Actino-Iron<sup>®</sup> Biological Fungicide

[**Alternate Brand Names:** Actino-Iron<sup>®</sup> Lawn and Garden Biological Fungicide]

**Grade: 0-0-0**

**ACTIVE INGREDIENT:**

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FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice</li></ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 – 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
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EPA Reg. No.: 73314-2  
EPA Establishment No.: [73314-TX-001]  
[69759-OR-003]  
[72934-FL-001]

Novozymes BioAg Inc.  
3101 W. Custer Ave  
Milwaukee, WI 53209  
1-800-245-4104

[NOVOZYMES RETHINK TOMORROW][LOGO]

**Net Weight:** [9 oz.][3 lbs.][10 lbs.]  
[Batch code and expiry date]

## PRECAUTIONARY STATEMENTS

**Hazards to humans and domestic animals - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**Environmental Hazards:** To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid runoff to water bodies or drainage systems.

## DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling. Not for use on agricultural establishments covered by the WPS (40 CFR Part 170).

**Product Information (How it works):** Actino-Iron<sup>®</sup> Biological Fungicide is a biological soil additive and fungicide for the suppression/control of soil borne plant root rot and damping-off fungi. Actino-Iron<sup>®</sup> Biological Fungicide contains agricultural grade iron and humate and is inoculated with the Actinovate<sup>®</sup> microorganism, *Streptomyces lydicus* WYEC 108. The microorganism colonizes on the root systems of plants, protecting the plant from soil borne diseases. Fungi controlled include *Fusarium*, *Pythium*, *Rhizoctonia*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Postia*, *Verticillium*, *Geotrichum*, and other root decay fungi. In addition, use of Actino-Iron<sup>®</sup> Biological Fungicide will produce hardier, more vigorous plants. Plants will be larger and greener with Actino-Iron Biological Fungicide.

**Uses:** For use on roses, bedding plants, annuals and perennials, flowering plants, lawns, fruits, vegetables, tropical foliage plants and ornamental shrubs.

## APPLICATION INSTRUCTIONS (HOW TO APPLY)

1 cup = ½ lb (8 oz).

### Mixing Into Potting Soil or Compost

Prior to potting plants, evenly mix 1 cup of Actino-Iron<sup>®</sup> Biological Fungicide into a 1.4 cubic foot bagged potting soil of your choice. When potting, repotting, establishing new beds or installing new plants, always add Actino-Iron<sup>®</sup> Biological Fungicide to the potting soil.



## **Applying To Transplants or Established Plants**

**New roses and flowers:** Work 1/8 cup at the bottom of the planting hole. Mix another 1/8 cup into soil used to fill around the roots of the transplant.

**Rose and flower beds:** Evenly spread on top of bed at a rate of [3 pounds per 750 square feet][9 o.z per 140 square feet] of bed. Work into the soil by raking or tilling. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Potted perennials:** For potted perennials (6" pot size or smaller) use 1 teaspoon. For larger perennials use 1–4 tablespoons. Apply to the soil around the base of each plant. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Garden beds:** Apply [1.5-3 lbs per 500 square feet][4.5-9 oz. per 90 square feet] and till into the soil to a depth of 2-5 inches before planting. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Shrubs and bushes:** Apply 1/4 cup around the base of the plant and work into soil. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

**Trees:** Apply 1/8 cup for each 1 inch of trunk diameter. Apply around base of tree and work into soil. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

## **Lawn Application**

**Established lawns:** As a fertilizer top dressing for lawns, Actino-Iron® Biological Fungicide will protect lawns from harmful root damaging fungi and provide long-term greening at the same time. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

### **Cool-Season (Northern) Grasses**

Apply 2 times/year Kentucky Bluegrass, Fescue, Perennial Ryegrass

Memorial Day	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]
August 1st	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]

### **Warm-Season (Southern) Grasses**

Apply 3 times/year Bermuda, St. Augustine, Centipede & Zoysia

April 1 <sup>st</sup> (after turf breaks dormancy)	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.]
	[10 lbs. per 2500 sq. ft.]
July 1 <sup>st</sup>	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]
November 1st	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]

**New Lawns:** Mix into the top two inches of soil before seeding or sodding. After third mowing of lawn, apply one [3 lb. bag per 750 sq. ft.][9oz bag per 140 sq. ft.] [10 lb. bag per 2500 sq. ft.] of lawn. Water in immediately after application in order to move Actino-Iron® Biological Fungicide into the soil and to the roots.

Seed Bed	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]
Sodding Preparation	[3 lbs. per 750 sq. ft.][9 oz. per 140 sq. ft.][10 lbs. per 2500 sq. ft.]

#### **Established and New Lawns: Spreader Settings:**

##### **Drop Spreader Type**

Ames/Earthway	21
Lawn Crafter (Quaker)	8
Red Devil	11
Republic EZ Grow	8
Scotts Accu Green series	10

#### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

#### **PESTICIDE STORAGE**

Store in a cool, dry place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

#### **PESTICIDE DISPOSAL AND CONTAINER HANDLING**

Nonrefillable container. Do not reuse or refill this container.

**If empty:** Place in trash or offer for recycling if available.

**If partially filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

#### **Warranty**

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. Novozymes BioAg warrants that at the time of the first sale of this product it conforms to the chemical description on the label and when used according to the label directions under normal growing conditions is reasonably fit for the purposes referred to above. Buyers/Users of this product assume full risk for any use contrary to the specified directions. If this product does not perform as warranted above and to the extent consistent with applicable law, customer's sole remedy for breach of warranty shall be replacement of the product or refund of the purchase price paid, at the option of Novozymes BioAg.

EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESSED REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OR GUARANTEE TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, INCLUDING ANY OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.

[Note: The following information will affixed to the unit package]

## Actino-Iron<sup>®</sup> Biological Fungicide

[**Alternate Brand Names:** Actino-Iron<sup>®</sup> Lawn and Garden Biological Fungicide]

**Grade: 0-0-0**

**ACTIVE INGREDIENT:**

*Streptomyces lydicus* WYEC108 \* .....0.013%

**OTHER INGREDIENTS:** .....99.987%

**TOTAL:** .....100.000% (by wt.)

\*Contains a minimum of 1 X 10<sup>6</sup> colony forming units per gram of product.

**Other Ingredients include Iron at a minimum of 15% and Humic Acid at a minimum of 1.00%. Iron is derived from magnetite ore.**

**GUARANTEED ANALYSIS**

Iron (Fe).....15.0%

Molybdenum (Mo).....0.001%

Iron derived from magnetite ore complexed by siderophores of *Streptomyces lydicus* WYEC 108

Contains agricultural grade iron and humate

**ALSO CONTAINS NON-PLANTFOOD INGREDIENT**

1% Humic Acid derived from decomposed plant residue.

ATTENTION: This product contains molybdenum (Mo). Crops high in molybdenum can be toxic to ruminant animals. Use only according to manufacturer's directions. Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**See booklet for additional precautionary statements, directions for use, application instructions and warranty.**

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice</li></ul>
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<b>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the poison control center at 1-800-222-1222.</b>	

### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

#### **PESTICIDE STORAGE**

Store in a cool, dry place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

#### **PESTICIDE DISPOSAL AND CONTAINER HANDLING**

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**EPA Reg. No.:** 73314-2

**EPA Establishment No.:** [73314-TX-001]  
[69759-OR-003]  
[72934-FL-001]

Novozymes BioAg Inc.  
3101 W. Custer Ave  
Milwaukee, WI 53209  
1-800-245-4104

[NOVOZYMES RETHINK TOMORROW][LOGO]

**Net Weight:** [9 oz.][3 lbs.][10 lbs.]  
[Batch code and expiry date]

**Sublabel C: Transport Label for 1 Ton Bags**

**PLEASE NOTE THAT THIS LABEL IS FOR TRANSPORTING THE PRODUCT BETWEEN REGISTERED ESTABLISHMENTS ONLY. THIS IS NOT A FINISHED PRODUCT AND IS AND NOT FOR SALE**

## **Actino-Iron<sup>®</sup> Biological Fungicide**

**Grade: 0-0-0**

**ACTIVE INGREDIENT:**

*Streptomyces lydicus* WYEC108 \*.....0.013%

**OTHER INGREDIENTS:**.....99.987%

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**Other Ingredients include Iron at a minimum of 15% and Humic Acid at a minimum of 1.00%. Iron is derived from magnetite ore.**

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Molybdenum (Mo).....0.001%

Iron derived from magnetite ore complexed by siderophores of *Streptomyces lydicus* WYEC 108

Contains agricultural grade iron and humate

**ALSO CONTAINS NON-PLANTFOOD INGREDIENT**

1% Humic Acid derived from decomposed plant residue.

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**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

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**Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the poison control center at 1-800-222-1222.**

**Environmental Hazards:** Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA

#### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

#### **PESTICIDE STORAGE**

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#### **PESTICIDE DISPOSAL AND CONTAINER HANDLING**

Nonrefillable container. Do not reuse or refill this container.

**If empty:** Place in trash or offer for recycling if available.

**If partially filled:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**EPA Reg. No.:** 73314-2

**EPA Establishment No.:** [73314-TX-001]  
[69759-OR-003]  
[72934-FL-001]

Novozymes BioAg Inc.  
3101 W. Custer Ave  
Milwaukee, WI 53209  
1-800-245-4104

[NOVOZYMES RETHINK TOMORROW][LOGO]

**Net Weight:** 1 ton (2,000 lbs.)  
[Batch code and expiry date]

## OPTIONAL LABEL CLAIMS

### General label claims:

- Controls Soil Borne Plant Diseases such as Pythium, Phytophthora, Verticillium, Rhizoctonia, Fusarium and root decay fungi.
- For Greenhouse, Nursery, Turf Grass, Agricultural and Residential Garden Use.
- Biological Soil Additive for Fungus Suppression/Control
- Grade 0-0-0 (0-0-0-15)
- Protects Roots from Disease Causing Fungi
- Add to soil or compost or add a tsp. to each transplant per the label directions
- Contains beneficial microbes

### [NOTE TO REVIEWER: These are fertilizer claims and are to be reviewed by the states]

- Soil Additive
- Provides long term greening
- Creates lusher, hardier lawns and plant
- Contains (Complexed) Iron
- With Iron & Humic Acid
- Promotes Beautiful Plants
- Protects and greens

### Sublabel B claims:

- One bag treats 3 cubic feet or up to 50 plants
- Treats 750 sq ft of lawn of soil or compost
- Add a teaspoon to each plant
- For Lawns, Trees, Flowers and Vegetables